JS 9/25/21
RJA 2/16/22

Ecotox Report for Case # P-18-0221

General

[redacted]

Report Status: Complete
Status Date: 11/14/2018
CRSS Date: 07/02/2018
SAT Date: 07/03/2018
SAT Chair: Doritza Pagan-Rodriguez
Consolidated PMN: N
Consolidated Set:
Ecotox Related Cases:
Health Related Cases:
Submitter: Georgia-Pacific Chemicals LLC
CAS Number: None
Chemical Name: [redacted]
Use: Binder for manufacturing wood panels. [redacted] This is a Sustainable Futures Submission. [redacted]
Trade Name: None
PV-max(kg/yr): [redacted]
Ecotox Assessor: Nguyen, Amelia

Fate Summary Statement

Fate Summary Statement: P-18-0221
FATE:
Estimations for <500 MW component, MW = [redacted],
Liquid with
MP < 25 °C (E)
log Kow = -0.81 (E)
S > 10 g/L at 25 °C
(E)
VP < 1.0E-6 torr at 25 °C (E)
BP > 400 °C (E)
H <
1.00E-8 (E)
log Koc = 1.00 (E)
log Fish BCF = 0.50 (3) (E)

log
Fish BAF = -0.05 (1) (E)
POTW removal (%) = 90 via sorption and
biodeg
Time for complete ultimate aerobic biodeg = wk-mo
Sorption to
soils/sediments = strong
PBT Potential: P1-2B1
*CEB FATE: Migration
to ground water = slow
Bioconcentration factor to be put into E-FAST:
3

Physical Chemical Information

Molecular Weight: [redacted]

Wt% < 500: [redacted] **Wt% < 1000:** [redacted]

Physical State - Neat: Liquid

Melting Point: **Melting Point (est):**

MP (EPI): NaN °C
(Exp.) 349.8399963378906 °C (Est., Joback) 227.20977783203125 °C (Est., Gold) 251.73580932617188 °C (Est., Selected)

Vapor Pressure: **Vapor Pressure (est):** <0.000001

VP (EPI): NaN mmHg (Exp.) 2.624746017385216E-18 Pa
(Est., Antoine) 1.968726854821572E-20 mmHg (Est., Antoine)
5.4965977119440404E-14 Pa (Est., Grain) 4.1227987218493876E-16 mmHg
(Est., Grain) 3.1544808739032587E-10 Pa (Est., Mackay)
2.3660617706779517E-12 mmHg (Est., Mackay) 5.4965977119440404E-14 Pa
(Est., Selected) 4.1227987218493876E-16 mmHg (Est., Selected)
1.614052442435311E-11 Pa (Est., SubCooled) 1.2106422364165786E-13 mmHg
(Est., SubCooled)

Water Solubility: **Water Solubility (est):** 1000

Water Solubility (EPI): NaN (Exp.) 12435.607421875
(Est.)

Henry's Law:: NaN atm-m3/mole (Exp.)
3.920280656534705E-29 atm-m3/mole (Est., Bond) 8.288105323591534E-38
atm-m3/mole (Est., Group)

Log Koc:	NaN	**Log Koc (EPI):**	2.302585092994046 (Est., log(MCI)) -3.5065579196717236 (Est., log(Kow)) 10.0 L/kg (Est., MCI) 0.029999999329447746 L/kg (Est., Kow)
Log Kow:		**Log Kow (EPI):**	NaN (Exp.) -0.81 (Est.)
Log Kow Comment:			

SAT Concern Level

Ecotox Rating (1):	1
Ecotox Rating Comment (1):	
Ecotox Rating (2):	
Ecotox Rating Comment (2):	
Ecotox Route of Exposure:	No releases to water

Ecotox Comments

Exposure Based Review (Eco):	Y
Ecotox Comments:	
Exposure Based Testing:	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
1-2	3		

Eco-Toxicity Comment:

Fate Ratings

Removal in WWT/POTW (Overall):	90					
Condition	**Rating Values**	**Rating Description**				**Comment**
		1	**2**	**3**	**4**	
Fish BCF:	3.16 L/kg wet-wt					
Log Fish BCF:	NaN (Exp.) 0.5 (Est.)					
WWT/POTW Sorption:	1-3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	2-3	Unknown	High	Moderate	Negligible	
Biodegradation Destruction:	2-3	Unknown	Complete	Partial	—	
Aerobic Biodeg Ult:	2-3	<= Days	Weeks	Months	> Months	
Aerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Hydrolysis (t1/2 at pH 7,25C) A:		<= Minutes	Hours	Days	>= Months	
Hydrolysis (t1/2 at pH 7,25C) B:		<= Minutes	Hours	Days	>= Months	
Sorption to Soils/Sediments:	2	V. Strong	Strong	Moderate	Low	
Migration to Ground Water:	2	Negligible	Slow	Moderate	Rapid	
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	
Bio Comments:						

Removal in WWT/POTW (Overall):	90					
Condition	**Rating Values**	**Rating Description** 1	2	3	4	**Comment**
	The [redacted] feedstock used had an average MW of [redacted] and contained [redacted]% glycerol with [redacted]% of mixed [redacted] structures. The EPI output file for a [redacted] MW component is attached.					
Fate Comments:						

Ecotoxicity Values

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	96-h	LC50	>100		Est. for both [redacted] and [redacted] MW oligomers
Daphnid	48-h	LC50	>100		" "
Green Algae	96-h	EC50	>100		" "
Fish	-	Chronic Value	>10		" "
Daphnid	-	Chronic Value	>10		" "
Green Algae	-	Chronic Value	>10		" "

Ecotox Value Comments: Predictions are based on QSARs for esters and [redacted] and [redacted] MW; ECOSAR V2.0); MW [redacted] with [redacted] <500 and [redacted] <1000; Log Kow = -1.56 (P, [redacted] MW), -1.67 (P, [redacted] MW); liquid with an unknown MP (P); S = 1E+6 (P, 492 and 836 MW); effective concentrations based on 100% active ingredients and mean measured concentraitons; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment

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Acute Aquatic (ppb):	100000	5	20000	The acute COC is based on the fish or aquatic invertebrate L/EC50 value.
Chronic Aquatic(ppb):	10000	10	1000	The chronic COC is based on the chronic toxicity value from fish, aquatic invertebrates, or algae.

Factors	Values	Comments
SARs:	Nonionic Polymers	
SAR Class:	Polymers-nonionic-low MW-esters-vinyl/allyl/propargyl ethers	
TSCA NCC Category?	Esters	

Recommended Testing: None.

Ecotox Factors Comments: Environmental

Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using the Ecological Structure Activity Relationships (ECOSAR) Predictive Model (https://www.epa.gov/tsca-screening-tools/ecological-structure-activity-releationships-ecosar-predictive-model);
specifically the QSARs for esters and vinyl/allyl/propargyl ethers (assessed using [redacted] and [redacted] MW; ECOSAR V2.0). Acute toxicity values estimated for fish, aquatic invertebrates, and algae are >100 mg/L. Chronic toxicity values estimated for fish, aquatic invertebrates, and algae are >10 mg/L. These toxicity values indicate that the new chemical substance is expected to have low environmental hazard. Application of assessment factors of 5 and 10 to acute and chronic toxicity values, respectively, results in acute and chronic concentrations of concern of 20 mg/L (20,000 ppb) and 1 mg/L (1,000 ppb), respectively.

Environmental Risk: Risks to the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern. Risks to the environmental

were not identified based on low hazard.

Comments/Telephone Log

Artifact	Update/Upload Time
[redacted]	[redacted]